Partner Reduction in HIV Prevention:

The Neglected Middle Child of "ABC"

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Interest has been growing in the "ABC" approach to sexual behavior change to prevent HIV, especially for generalized, high prevalence epidemics.[1] In this approach, A stands for Abstinence or delay of sexual activity, especially among youth. B literally stands for "Be faithful" - but importantly also includes partner reduction for those having multiple partners. And C represents Condom use, especially for higher-risk sex. In the often dialectical discourse surrounding AIDS prevention, some voices have stressed abstinence[2] whereas others have concentrated on condoms.[3] In our view, however, B has been something of a neglected middle child of behavior change efforts, yet in fact could become the centerpiece of a unifying, evidence-based ABC approach.

Epidemiologic Importance of Fidelity and Partner Reduction. It seems obvious, but were it not for multiple partners, there would be no global AIDS pandemic. The absolutely crucial role of number of sexual partners (especially concurrent partners) is a bedrock principle for all sexually transmitted infections (STIs)[4] and HIV is no exception.[5] Moreover, HIV viral load and therefore infectiousness appears to be markedly higher during the early stage of infection,[6] so HIV transmission would be particularly heightened by partner change among newly infected people. In addition, HIV transmission is facilitated by the presence of other STIs, especially ulcerative ones.[7] Hence increased risk of other STIs resulting from multiple partner dynamics can further magnify the spread of HIV.

Role of Partner Reduction in Major HIV Successes. In both of the heralded national success stories, Thailand and Uganda, partner reduction appears to have played a pivotal role. Thailand's "100% condom" approach in brothels is widely credited with reversing its more concentrated epidemic. However, there was also a striking reduction in the proportion of men who reported engaging in commercial and other casual sex.[8, 9] In Uganda, where estimated HIV prevalence has declined from about 15% to 5% during the past decade,[10] each component of the "ABC" approach probably played an important role. Although perhaps the least recognized element, partner reduction appears to have been key.

It is difficult to reconstruct the events that occurred during the late 1980's and early 1990's, when incidence was falling in Uganda,[9, 11] in order to weigh the relative contributions of A,B and C. With respect to abstinence, according to Demographic and Health Surveys (DHS) between 1989 and 1995 age at sexual debut increased by less than one year,[9] and the proportion of single women 15-24 who reported sex during the previous year declined by a third. Such changes were clearly very important, but in and of themselves probably cannot account for the dramatic overall decline in HIV. In addition, "ever-use" of condoms increased from 1% to only 6% for women during those same years; and by 1995 had reached 16% among men.[10] While such levels of condom ever-use are unlikely to have been the crucial prevention factor during that all-important earlier period, Uganda now has one of the highest levels of reported condom use for non-regular partners in Africa.[9] Thus condom use has likely contributed to the continuing stabilization of the epidemic since the mid 1990s.

On the other hand, in the face of the pervasive national "zero grazing" admonition to stick to one partner, reported multiple partner behavior dropped markedly in Uganda. Although the DHS did not interview men back in 1989, surveys conducted by the Global Program on AIDS (GPA) in 1989 and 1995 found that the number of men with one or more casual partners declined from 35% to 15% and for women from 16% to 6%.[9] Notably, the number of men reporting 3 or more non-regular partners fell from 15% to 3%. Especially given the important contribution to STI/HIV transmission of individuals at the upper end of partner numbers, such changes are profound. Indeed, modeling of HIV interventions in rural Uganda suggests that such degrees of partner reduction could have had a dramatic impact on HIV incidence.[12, 13]

Partner Reduction is Not Only Possible, It has Occurred in Many Countries. In the face of the specter of AIDS it appears that many people, including gay men in the USA,[14] have taken action on their own to reduce their number of partners. Thus DHS surveys from 29 developing countries in the 1990's asked individuals if they had done anything to avoid AIDS.[15] Almost 80% of men and 50% of women reported that they had. Far and away the most common reported change was restricting activity to one partner, followed by reducing numbers of partners, avoiding prostitutes, and adopting condom use.

Other data provide evidence of substantial partner reduction. Surveys from Cambodia indicate the percentage of men who reported paying for sex in the previous year fell sharply from 27% in 1996 to 11% in 2000.[16] In Zambia during the 1990s there was a large reduction in reported casual sex[9, 17] and an apparent decline in HIV prevalence among urban youth,[18] in the presence of strong grassroots behavior change efforts. And in the Dominican Republic, where HIV also seems to have abated,[19] men have reported partner reduction along with increased condom use with non-regular partners.[20]

Implications for Behavior Change Programming. We fully recognize that our analysis of the importance of partner reduction rests largely upon ecological and other observational evidence, including self-reported behavioral findings. Nevertheless, the overall patterns and associations appear consistent and logical, and suggest the potential for large-scale impact. And yet, given the well-established epidemiological centrality of multiple partner dynamics for HIV/STD transmission, together with evidence that partner reduction appears to be occurring in many places, we find surprisingly little attention paid to "B." We believe it is imperative to begin including – and rigorously evaluating the impact of -- messages about fidelity and partner reduction in ongoing behavior change activities. Clearly, specific B (and A or C) messages will need to be tailored to specific at-risk populations. Formative research should suggest what behavior changes are feasible for each audience, and programmatic efforts accordingly should build upon behavior changes that people already appear amenable to making.

Moreover, it seems important and feasible to promote A, B and C simultaneously. People seem generally able to grasp readily that the root problem with HIV transmission is risky sex and so they adopt A, B or C as it best fits their circumstances. Our public health responsibilities include helping people understand the strengths and limitations of each component and not promoting one to the detriment of another. For example, while

abstinence may be a viable option for many young people, for others it may be an unrealistic expectation. Likewise, even though prospective studies have demonstrated that condoms reduce risk by 80% or more when used consistently,[21, 22] in real-life situations they often are not used correctly or consistently[23] so they should not be advertised in such a manner as to lead to overconfidence or risky behavior.

Importantly, evidence from both Thailand and Uganda indicate not only that individual behavior changed, but group norms of behavior were altered as well.[24, 10] In Uganda, a combination of explicit and repeated presidential pronouncements and the committed engagement of faith-based organizations, the political apparatus, the military, the health system, and community-based and mass communications -- all in the context of the stark reality of people dying from AIDS -- collectively appear to have achieved a "tipping point" towards community norms to avoid risky sex. This experience supports the need for multiple message sources originating from a variety of program directions. Also, the lion's share of the behavior change communication designs originated endogenously within Uganda (and similarly within Thailand), which argues for external assistance that reinforces such locally developed approaches.

Of course, HIV prevention must extend beyond "ABC." Other behavior changes such as avoiding unprotected anal intercourse are important,[25] as are efforts to reduce risk from intravenous drug use, improve STD treatment for high-risk populations, promote safe injection practices in healthcare settings, develop a microbicide that women can use to lower their risk, consider exploring increased access to male circumcision,[26, 27] and provide linkages to AIDS treatment and support. How all these components are optimally promoted and deployed depends on many factors, including the stage and nature of a given epidemic and the particular at-risk subpopulations. As with all interventions, additional research will be essential for maximizing the impact of ABC behavior change programs, including systematic and prospective evaluation of specific partner reduction strategies.

Conclusion. Based on the available evidence, we believe that fidelity and partner reduction deserve considerably more attention than they have heretofore received in either research or programs for STD/HIV prevention. We need to develop rigorously evaluated best practices on how to promote "B", and apply them in conjunction with other ongoing behavior change efforts. Rather than expending energy debating the merits of A versus C, the international health community should unite around the common ground of a balanced ABC approach, tailored to the local epidemiological and socio-cultural contexts. In this way we can build on the partner reduction and other behavioral changes that are already happening, and help reverse the tide of AIDS.

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